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CLASSIFICATION OF THE FOSSORIAL, PREDACEOUS AND PARASITIC WASPS, OR THE SUPERFAMILY VESPOIDEA.

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(Paper No. 17.—Continued from Vol. XXXV., p. 310.)

TRIBE II.—Mutillini.

This tribe, to the initiated, is readily distinguished by the eyes, which are usually quite differently shaped, rarely smooth and shining, and always distinctly faceted, although a few females have small ellipsoidal or somewhat rounded eyes, as in the tribes *Photopsidini* and *Sphaerophthalmi*, and therefore, if the greatest care is not given to other characters, could be confused with certain genera in those tribes.

Table of Genera.

Males.....	1.
Females.....	28.
1. Eyes not large, oval, ovate or ellipsoidal, never emarginate within, distinctly faceted.....	2.
Eyes large, always distinctly emarginate within..	13.
2. Apterous or subapterous forms.....	3.
Fully winged forms.....	8.
3. Subapterous or with rudimentary wings.....	7.
Apterous or entirely without wings.	
Thorax with distinct sutures, the scutellum more or less differentiated.....	4.
Thorax without sutures, the scutellum not differentiated, entirely absent; eyes small, oval. (Europe, Africa and Asia.).....	Brachymutilla, André. (Type B. gynandromorpha, André.).
4. Mandibles dentate.....	5.
Mandibles edentate, acute at apex.	

- Thorax oblong, narrowed posteriorly, rounded in front, the scutellum very minute; eyes small, oval. (North America.) *Morsyma*, Fox.
(Type *M. Ashmeadii*, Fox.)
5. Thorax not ob-bell-shaped 6.
- Thorax ob-bell-shaped, widest in front, the pronotum very short, wider than the mesonotum and a little wider than the head.
- Head transverse, the temples narrow; ocelli wanting; scutellum present; abdomen spotted with white, the first segment narrowed into a slight petiole at base, but broad at apex and sessile with the second. (Asia, Africa) *Spilomutilla*, Ashm., gen. nov.
(Type *Mutilla perfecta*, Radoszk.)
6. Thorax oblong, but compressed medially at the sides; head large, quadrate, the temples usually very broad, not oblique; ocelli distinct; scutellum indistinctly differentiated.
(Africa.) *Viereckia*, Ashm., gen. nov.
(Type *Mutilla dumbrodia*, Péring.)
- Thorax oblong, as wide behind as before, or nearly, and only slightly compressed at the sides medially; head obtrapezoidal, the temples oblique; ocelli subobsolete; scutellum entirely absent.
(Africa.) *Apteromutilla*, Ashm., gen. nov.
(Type *Mutilla aeda*, Péring.)
7. Head large, quadrate, usually much broader than the thorax, the thorax oblong quadrate, the sides parallel, or nearly, the front angles acute; mandibles 3-dentate.
- Head armed with a large tooth on each side beneath, the upper hind angles acute; scutellum present; clypeus bidentate; eyes oval, placed anteriorly rather close to the mandibles. (North America.) *Myrmilloides*, André.
(Type *Mutilla grandiceps*, Blake.)
- Head unarmed, the upper hind angles not acute; scutellum present; clypeus not bidentate. (Europe, Africa, Asia.) *Myrmylla*, Wesmael.
(Type *Mutilla distincta*, Lepel.)
8. Front wings with only *two* cubital cells 9.
- Front wings with *three* cubital cells, or the third partially formed, never entirely absent 11.

9. Not entirely black, the thorax red ; head transverse, rounded behind, the hind angles not acute 10.
 Entirely black.
 Head transverse-quadrate, the hind angles acute ; mandibles bidentate Pseudomethoca, Ashmead.
 (Type *Mutilla Canadensis*, Blake.)
 Head transverse, rounded behind, the hind angles not acute Dimorphomutilla, Ashm., gen. nov.
 (Type *Mutilla lunulata*, Spinola.)
10. Head transverse, wider than the thorax ; mandibles not long ; bidentate at apex. (Europe, Africa.) Myrmilla, Wesmael.
 Head transverse-quadrate, wider than the thorax ; mandibles long, narrow, arcuate, tridentate at apex. (Africa.) Labidomilla, André.
 (Type *Mutilla tauriceps*, Kohl.)
11. Mesonotum *with* furrows ; hind tibiæ spinous on outer face 12.
 Mesonotum *without* furrows ; hind tibiæ not spinous on outer face.
 Not entirely black, the thorax red ; front wings with *two* recurrent nervures ; antennal joints 3 and 4 more than twice longer than thick. (Europe.) Myrmilla, Wesmael.
 Entirely black ; front wings with only *one* recurrent nervure ; antennal joints 3 and 4 hardly longer than thick (?) Dimorphomutilla, Ashm. (partim.)
12. Mandibles 3-dentate.
 First and second joint of the flagellum not short, fully twice as long as thick. (South America.) Euspinolia, Ashm., g. nov.
 (Type *Mutilla chilensis*, Spinola.)
 First and second joints of the flagellum short, the first distinctly shorter than the second. (Africa.) Dasylabroides, André.
 (Type *Mutilla capensis*, Sauss.)
13. Antennæ simple, never flabellate 14.
 Antennæ abnormal, flabellate.
 Thorax with distinct parapsidal furrows ; the scutellum with a deep furrow across the base ; front wings with *three* cubital cells. (Africa.) Psammotherma, Latreille.
 (Type *Mutilla flabellata*, Fabr.)
14. Front wings with *three* cubital cells, or the third at least partially formed 15.

- Front wings with only *two* cubital cells, the third entirely obliterated..... 24.
15. Scutellum abnormal, conically or triangularly elevated, especially medially at apex..... 16.
Scutellum normal, not conically or triangularly elevated..... 17.
16. Mesonotum with distinct furrows ; mandibles excised beneath, bidentate at apex : abdomen with the first ventral segment carinate medially, the hypopygium margined laterally, emarginate at apex. (Africa.)..... Trogaspidia, Ashmead.
(Type *Mutilla medon*, Smith.)
17. Mesonotum *with* distinct parapsidal furrows, or the furrows indicated posteriorly 18.
Mesonotum *without* parapsidal furrows..... 23.
18. Mandibles beneath, before the middle, excised or sinuated, and usually with a process or tooth before the incision..... 19.
Mandibles beneath simple, not excised or sinuated, and never with a process or tooth beneath..... 21.
19. Mandibles bidentate..... 20.
Mandibles tridentate.
Submedian cell longer than the median, the second cubital cell more or less triangular, the third large, hexagonal ; first joint of the flagellum shorter than the second. (Europe, Africa, Asia.) *Mutilla*, Linné.
(Type *M. europaea*, Linné.)
20. Submedian cell longer than the median, rarely equal, the marginal cell about twice as long as wide ; first joint of the flagellum about as long as the second ; hind tibiæ spinous and also with long hairs. (North and South America.) *Timulla*, Ashmead.
(Type *Mutilla dubitata*, Smith.)
- Submedian and median cells equal, the marginal cell not much longer than wide ; first joint of the flagellum distinctly shorter than the second ; hind tibiæ *not* spinous, but with long hairs. (Europe.) *Smicromyrme*, Thomson.
(Type *Mutilla rufipes*, Latr.)

21. Mandibles tridentate 22.
Mandibles bidentate.
Submedian cell longer than the median; disc of clypeus subconvex;
first joint of the flagellum a little shorter than the second;
second ventral segment normal. (Europe.) Ronisia, Costa.
(Type *Mutilla brutia*, Pet.)
22. Second ventral segment carinate, and sometimes dentate posteriorly
(Africa.) Barymutilla, André.
(Type *Mutilla pythia*, Smith.)
23. Submedian cell longer than the median, the third cubital cell
pentagonal. (Africa.) (?) *Dolichomutilla*, Ashmead.
24. Scutellum and metathorax normal, unarmed. 25.
Scutellum and metathorax abnormal, armed with teeth 27.
25. Thorax with the front margin slightly arcuate, the angles not acute;
front wings with *two* recurrent nervures 26.
Thorax with the frontal margin slightly concave, the angles *acute*;
front wings with *one* recurrent nervure.
Head transverse, not as wide as the thorax; mesonotum with
distinct furrows; median and submedian cells of an equal
length; abdomen with a white band.
(Asia.) *Radoszkowskius*, Ashm., gen. nov.
(Type *Mutilla simplicifascia*, Radoszk.)
26. Head subquadrate, *with* two tubercles between the antennæ, the
temples broad; recurrent nervures converging and entering the
second cubital cell close together.
(Africa.) *Blakeius*, Ashm., gen. nov.
(Type *Mutilla bituberculata*, Smith.)
Head transverse, *without* tubercles between the antennæ, the temples
not broad; recurrent nervures not converging, widely separated.
(Africa.) *Mimecomutilla*, Ashm., gen. nov.
(Type *Mutilla purpurata*, Smith.)
27. Scutellum transverse-quadrate, *tridentate* posteriorly; second ventral
segment armed with a tooth. (Africa.) . *Péringueya*, Ashm., gen. nov.
(Type *Mutilla erynnis*, Péring.)
Scutellum large, flat, *bidentate* posteriorly, a tooth at each hind angle
that curves inwardly; second ventral segment normal, unarmed
(Africa.) *Odontomutilla*, Ashmead.
(Type *Mutilla Saussurei*, Sèchel.)

28. Thorax quadrangular, not much narrowed posteriorly, the sides parallel or nearly, sometimes laterally slightly sinuate or compressed medially, rarely obtrapezoidal.....29.
 Thorax quite differently shaped, most frequently obpyriform, obovoid, violin-shaped or otherwise, usually narrowed posteriorly or much contracted at the sides.....39.
29. Pygidium not perfectly smooth, usually striate, rugulose, coriaceous or punctate, and with a pygidial area, i.e. with an elevated rim at the sides.....30.
 Pygidium usually smooth, without a distinct pygidial area, or the elevated rim is wanting or exceeding delicate.....44.
30. Thorax with the front angles rounded, *not* acute.....31.
 Thorax with the front angles acute.....33.
31. Lateral margins of the thorax and the upper margin of the metathoracic truncature dentate or denticulate.....32.
 Lateral margins of the thorax and the upper margin of the metathoracic truncature usually simple, not dentate at the most, and rarely with only the upper margin of the truncature dentate....34.
32. Thorax with sides parallel or nearly; head subquadrate, *without* tubercles between the antennæ; mandibles simple, unarmed; first joint of the flagellum obconical, about twice as long as thick, the second joint transverse. (Africa.).....(?) Trogaspidia, Ashmead.
 Thorax with side slightly compressed medially; head large, quadrate, *with* two tubercles between the antennæ; mandibles very long, tridentate (two widely-separated teeth within on inner margin); first joint of the flagellum very long, longer than 2 and 3 united. (South America.).....Euspinolia, Ashm., gen. nov.
 (Type *Mutilla chilensis*, Spin.)
33. Head quadrate, a little wider than the thorax, with *two* triangular tubercles between the antennæ. (Africa.) Blakeius, Ashm., gen. nov.
 (Type *Mutilla bituberculata*, Smith.)
 Head transverse, not wider than the thorax, *without* tubercles between the antennæ. (Asia.) Radoszkowskii, Ashm., gen. nov.
 (Type *Mutilla simplicifascia*, Radoszk.)
34. Upper margin of the metathoracic truncature armed with three or more teeth.....35.
 Upper margin of the metathoracic truncature normal, unarmed...36.

35. Thorax not twice as long as wide, the upper margin of the truncature armed with 3 to 5 teeth; head large, quadrate, the temples very broad. (Africa.) Péringueya, Ashm., gen. nov.
(Type *Mutilla euterpe*, Péring.)
- Thorax a little more than twice longer than wide, the upper margin of the truncature armed with about 8 teeth; head subquadrate, the temples not especially broad.
(Africa.) *Pristomutilla*, Ashm., gen. nov.
(Type *Mutilla pectinata*, Radoszk.)
36. Mandibles at apex *not* tridentate 37.
Mandibles at apex tridentate, the outer tooth the longest. (Europe, Africa, Asia.) *Mutilla*, Linné.
37. Mandibles *not* emarginate beneath towards base, *without* a process or projection 38.
Mandibles emarginate beneath towards base, *with* a process or projection before the emargination. (Europe.) *Ronisia*, Costa.
(Type *Mutilla brutia*, Pet.)
38. Head subquadrate or transverse, not or scarcely wider than the thorax.
Mandibles bidentate; third joint of the antennæ not longer than the fourth, shorter than the fifth, or no longer.
(Europe.) *Smicromyrme*, Thomson.
Mandibles acuminate, edentate, rarely with a slight tooth within before apex; third joint of the antennæ longer than the fourth, usually as long as joints 4 and 5 united. (North and South America.) *Timulla*, Ashmead.
- Head large, quadrate, wider than the thorax, the temples broad; thorax more than twice longer than wide; abdomen with two white dorsal spots on second segment. (Africa.) . . *Viereckia*, Ashmead.
39. Thorax not escutcheon-shaped 40.
Thorax somewhat escutcheon-shaped, sinuately emarginated or contracted from about the apical one-fourth, the posterior margin and angles rounded; head transverse, as wide as the thorax; eyes oval. (Africa.) *Mimecomutilla*, Ashm.
40. Thorax quite differently shaped, *without* a lateral tooth at the apical third 41.
Thorax sinuate and slightly narrowed posteriorly from a lateral tooth at the apical third.

Mandibles simple, edentate ; third joint of the antennæ obconical, hardly longer than thick at apex.

(Africa.) *Odontomutilla*, Ashmead.

41. Thorax not hexagonal, usually obpyriform, obovoid, obtrapezoidal or violin-shaped 42.

Thorax distinctly hexagonal, widest at the angles a little before the middle, squarely truncate anteriorly.

Head quadrate, the temples broad ; eyes oblong-oval.

(Africa.) *Xenomutilla*, Ashm., gen. nov.

(Type *Mutilla eurydice*, Péring.)

42. Thorax not much elongate, less than thrice as long as wide 43.

Thorax much elongate, obpyriform, at least thrice as long as wide, or even longer ; pygidium towards apex usually smooth, shining, the pygidial area nearly obliterated.

Thorax more than thrice as long as wide, coarsely pitted or rugose, the front margin rounded, the lateral margin with a triangular tooth before the middle ; second ventral segment with a median tooth ; head subquadrate, hardly as wide as the thorax, rounded behind, the temples broad ; mandibles acuminate at apex, but with a tooth within near the middle, usually not visible when the mandibles are closed.

(Africa.) *Dolichomutilla*, Ashmead.

Thorax about thrice as long as wide, but not coarsely sculptured, the front margin squarely truncate, the lateral margins without a tooth ; second ventral segment unarmed ; head transverse, not wider than the thorax, the temples narrow ; mandibles acuminate, edentate. (Asia.) *Promecilla*, André.

(Type *Mutilla regia*, Smith.)

43. Thorax obpyriform, obovoid or subtrapezoidal, narrowed posteriorly.

Thorax subtrapezoidal ; head subquadrate, rounded behind, the temples broad ; eyes small, oval ; mandibles arcuate, acuminate.

(Africa.) *Brachymutilla*, André.

Thorax obovoid or obpyriform.

Head quadrate, the temples broad ; eyes ellipsoidal ; mandibles conically-pointed ; third antennal joint longer than the fourth, but not twice as long as thick. (North

America.) *Morsyma*, Fox.

- Head subglobose; eyes not small, oval or ovate; mandibles stout, conically-pointed; third antennal joint fully twice as long as thick, obconical, longer than the fourth. (Europe, Africa.) Dasylabroides, André.
(Type *Mutilla caffræ*, Smith.)
44. Thorax more or less contracted at the sides, almost violin-shaped or obtrapezoidal; if somewhat quadangular the sides sinuated . . . 45.
Thorax quadangular or nearly, trapezoidal or obpyriform 46.
45. Thorax, seen from above, almost violin-shaped.
Head large, quadrate, wider than the thorax, the upper hind angles acute, beneath armed with a tooth on each side; mandibles usually bidentate, rarely simple, the outer tooth the longer. (North America.) Pseudomethoca, Ashmead.
Head transverse, usually wider than the thorax, but with the hind angles rounded and beneath unarmed; mandibles with a tooth within before apex. (South America.) Dimorphomutilla, Ashmead, gen. nov.
(Type *Mutilla lunulata*, Spin.)
Thorax, seen from above, almost quadangular, with the sides bisinuate or crenulate; head transverse, a little wider than the thorax, the cheeks unarmed; eyes ellipsoidal; mandibles bidentate. (Africa.) Barymutilla, André.
(Type *Mutilla pythia*, Smith.)
46. Thorax not trapezoidal 47.
Thorax trapezoidal, slightly narrowed *anteriorly*.
No median longitudinal carina on thorax, the lateral margins finely denticulate; head large, nearly quadrate, wider than the thorax; eyes oval; hind tibiæ spinous; scape long, somewhat curved; first joint of the flagellum very long, three or more times longer than the second; tarsi long and slender; mandibles large, falcate. (Africa.) Labidomilla, André.
A feeble median longitudinal carina on thorax, the lateral margins not acute, the hind angles acute; head oblong, longer than wide; eyes oval; middle and hind tibiæ smooth, not spinous. (Europe, Asia, Africa.) Nanomutilla, André.
(Type *Mutilla voucheri*, Turn.)
47. Thorax quadrangular or nearly, the sides parallel or nearly, rarely much compressed or sinuate at sides medially 48.

- Thorax obpyriform or much narrowed posteriorly 52.
48. Thorax quadrangular or nearly 49.
- Thorax about twice as long as wide, the sides more or less compressed or sinuate medially.
- Head not wider than the thorax; abdomen ovate, subsessile, the second segment large, with two white spots.
- (Africa.) *Apteromutilla*, Ashmead.
50. Head somewhat large, but without a tooth on each side beneath, the hind angles rounded, not acute; eyes oval or oblong; antennal scape not specially long 51.
- Head large, with a tooth on each side beneath, the hind angles acute; eyes oval; antennæ rather widely separated, the scape long, the third joint very long; mandibles long, narrow, arcuate and bidentate at apex. (North America.) *Myrmilloides*, André.
51. Mandibles 3-dentate; third antennal joint only about twice as long as the fourth, or as long as joints 4 and 5 united. (Europe, Africa, Asia.) *Myrmilla*, Wesmael.
- Mandibles acuminate at apex, with a tooth within before apex, never tridentate; third antennal joint more than twice longer than the fourth. (Europe, Africa.) *Edrionotus*, Radoszkowski.
- (Type *Mutilla capitata*, Lucas.)
52. Head not wider than the thorax, strongly concave beneath, the margins rimmed; second abdominal segment anteriorly depressed, the depression limited by an oblong cushion.
- (Asia.) *Platymutilla*, André.
- (Type *P. quinquefasciata*, André.)

A NEW JOINT-WORM PARASITE FROM RUSSIA.

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Homoporus Vassiliefi, sp. nov.—♀—Length, 2 mm. Head and thorax bluish, finely, closely punctured, the face and the pleura with a greenish metallic lustre, the metapleura decidedly brassy; antennæ brown, the scape yellow; legs concolorous with the thorax, the hind coxæ with a metallic greenish fringe, the apices of all femora, all tibiæ and tarsi, except the last joint, yellow, the last joint dark fuscous; wings hyaline, the nervures brown, the stigmal vein two-thirds the length of the marginal, the